Challenge of a Lifetime

REPORT 1999

A DESCRIPTION OF THE MORTALITY EXPERIENCE OF AFRICAN AMERICAN MALES

1990-1998

Challenge of a Lifetime Report 1999

A description of the mortality experience of African-American males 1990-1998

John Engler, Governor
James K. Haveman, Jr., Director

Prepared by:

Dr. Mathew J. Reeves, Harry McGee and Dr. Cassius Lockett,
Division for Epidemiology Services
Bureau of Epidemiology

With assistance from:

Maurice Barone, Kathy Humphrys, and Kathy Haines
Division for Vital Records and Health Statistics

and

Jean Chabut and Staff
Division of Chronic Disease and Injury Control

and

John Beasley and Staff
Health Promotions and Publications

Special thanks to
Bryan Williams
for his initial contributions to this report.

Summary

This report documents that while marked differences in life expectancy, overall mortality and premature mortality still exist for the African-American male population in Michigan, considerable progress has been made in reducing these differences since 1990. In Michigan, overall mortality in African-American males is higher than in any other race or gender sub-group examined in this report, and is 60 percent higher than that in white males. However, since 1990, the decline in overall mortality has been greater among African-American men (an overall 13 percent decline between 1990 and 1998), compared to the declines seen in the other three major race and gender sub-groups, i.e., white males (9.6 percent), Black females (9.7 percent) and white females (2.4 percent).

Premature mortality (defined as deaths occurring before age 75) is also much higher in the African-American population in Michigan. The premature mortality rate (defined by the index - Years of Potential Life Lost [YPLL] in this report) in African-American males declined 24 percent since 1990, but it was still twice that of white males in 1998. Similar large declines in premature mortality were seen for African-American women (17 percent since 1990), but this rate also is still almost twice that of white females, illustrating that premature mortality is a problem for all African-Americans, not just men. The improvements seen in overall mortality and premature mortality rates among African-American males have translated to clear improvements in their overall life expectancy and survival. The life expectancy of African-American men increased 2.9 years from 63.9 years in 1990 to 66.8 years in 1998 (a 4.5 percent increase). This compares to white men whose life expectancy increased only 1.3 years (or 1.8 percent) over the same time period (from 73.1 years in 1990 to 74.4 years in 1998).

In terms of specific causes of death, major improvements were observed for the three leading causes of death in African-American males: diseases of the heart, cancer and homicide. Homicide rates in particular have dropped dramatically since 1990; the age-adjusted mortality rates declined 38 percent between 1990 and 1998. This figure incorporates a decline of over 50 percent in the homicide rate among men aged 15-24, and similar large declines among men aged 25-34 (23 percent) and 35-49 (15 percent).

Mortality from diseases of the heart declined 16 percent since 1990 among African-American males, while cancer mortality declined 9 percent. As expected, most of this gain was observed in older age groups. For example, mortality from diseases of the heart declined 13 percent among men aged 50-64 years of age, and 19 percent among men aged 65 and older, while cancer mortality declined 14 percent among men aged 50 to 64 years of age, and 7 percent among men aged 65 and older.

Despite these obvious improvements, it is important to note that in 1998, for every major cause of death the mortality rate of African-American males was still substantially higher than that seen in white males, with the exception of chronic obstructive pulmonary disease (COPD) and suicide. For homicide and AIDS in men, the racial differences are simply staggering — a 17.5 and 9.9 fold difference between Black men and white men.

We should also note that worrying trends of increased mortality from unintentional injuries (which increased 5 percent since 1990) and stroke (which increased 2 percent since 1990) were observed among African-American males in Michigan. Large increases in the unintentional injury mortality rate were observed among two age groups: 5-14-year-olds (where the rate increased 59 percent) and 25-34-year-olds (where the rate increased 68 percent). Stroke mortality increased 13 percent among African-American men aged 65 and over during this period. ■

Introduction

In 1995, the Michigan Department of Community Health (MDCH) commissioned a task force to examine the health status of African-American males in Michigan. The task force was formed because of the deterioration in life expectancy of African-American males compared with African-American females, white males and white females since 1960. The task force published its findings in 1995 in the "Challenge of a Lifetime" (COLT) report. This report examined the health status of African-American males and ways to improve that health status in the areas of heart disease, stroke, prostate cancer, AIDS, homicide and diabetes. This report updates the material presented in the original COLT report using the most recent (1998) mortality data. Throughout this report, trends in age-adjusted mortality rates between 1990 and 1998 are compared for African-American males, African-American females, white males and white females. The magnitude of the racial difference within a particular gender group is captured by comparing the age-adjusted mortality rate of African-Americans to whites (i.e., the mortality rate ratio), and where relevant, this report also compares the total number of deaths, age-specific rates, and survival rates. This report does not address the availability or quality of health services, the prevalence of high risk behaviors, nor the prevalence or morbidity of disease (with the exception of HIV infection). As such it is useful only as an indicator of African-American male survival. It may or may not be helpful in determining the success of the task force recommendations. ■

Demographics

The most recent (1997) estimate of the African-American population in Michigan was 1,454,521, or 14.9 percent of the state's population (Table 1), which represents a 11.7% percent increase since 1990. The population of African-American males actually increased by 11.4 percent during this period, compared with 12.0 percent for African-American females. In 1997 there were an estimated 677,396 African-American males, who constitute 47 percent of the total African-American population. In 1997, the proportion of African-American males and females under the age of 45 was 76.4 and 71.9 percent, respectively. The equivalent percentages for white males and females was 66.9 and 63.0, respectively. The age structure of the African-American population in Michigan is, therefore, considerably younger than the white population. ■

Over three-quarters of Michigan's male African-Americans live in two counties in southeast Michigan (Wayne and Oakland). The 10 counties with the largest number of African-American male residents both in 1990 and 1997 were:

County	African-American Male Population	
	1990	1997
Wayne	389,144	421,243
Oakland	35,566	49,003
Genesee	39,229	42,110
Kent	19,857	23,822
Saginaw	17,115	18,880
Washtenaw	15,481	16,716
Ingham	13,456	15,182
Muskegon	10,653	12,399
Berrien	11,264	12,183
Kalamazoo	9,579	11,062

The 10 counties with the largest proportion of African-American male residents were:

County	African-American Male Population	
	1990	1997
Wayne	18.5%	20.0%
Genesee	9.1%	9.7%
Saginaw	8.1%	8.9%
Berrien	7.0%	7.6%
Muskegon	6.7%	7.5%
Chippewa	6.3%	6.8%
Jackson	5.2%	6.0%
Washtenaw	5.5%	5.6%
Lake	6.0%	5.4%
Ingham	4.8%	5.3%
Ionia	5.2%	5.3%

Table I: 1997 Estimated Populations of Michigan Whites and African Americans by Gender and Age Group

AGE (in years)	WHITE				BLACK			
	Males	Females	Total	Percent	Males	Females	Total	Percent
Under 5	258,219	245,001	503,220	6.20	69,170	68,313	137,483	9.45
5-19	873,397	828,445	1,701,842	20.98	189,756	184,512	374,268	25.73
20-29	526,199	523,550	1,049,749	12.94	114,964	124,188	239,152	16.44
30-44	1,008,710	1,001,643	2,010,353	24.78	143,406	181,849	325,255	22.36
45-64	874,535	899,156	1,773,691	21.87	108,887	137,578	246,465	16.94
65-74	263,690	318,527	582,217	7.18	31,282	44,248	75,530	5.19
75+	179,483	310,790	490,273	6.04	19,934	36,436	56,370	3.88
TOTAL	3,984,236	4,127,120	8,111,356	100.00	677,396	777,126	1,454,522	100.00

Note: *Population estimates as of July 1 of the specified year calculated by the Office of the State Demographer, Michigan Department of Management and Budget. Latest update provided on 09/98.*

Source: *Table prepared by the Division for Vital Records and Health Statistics, Michigan Department of Community Health.*

Overall Mortality, Premature Mortality and Life Expectancy

Introduction

This report will first describe the overall (all-cause) mortality picture in African-American males, by comparing age-adjusted rates with the rest of Michigan's population. Differences in premature mortality (i.e., death before age 75) will be presented in terms of the Years of Potential Life Lost (YPLL). In the previous report published in 1995, premature mortality was defined as death before age 65. However, it is now the National Center of Health Statistics (NCHS) standard to use death before age 75, as the definition of premature death. Age 75 is now used as it more closely reflects the current average life expectancy for the US population.

We will also present survival curves (from ages 15 through 75) which represent the cumulative effect of premature mortality. We have chosen throughout the report to present disease trends for the four main population sub-groups: Black males, white males, Black females and white females. Documenting the magnitude of both the racial and gender differences among these four groups helps illustrate the different factors that may be contributing to the observed mortality patterns.

The report will focus on the 10 leading causes of death among African-American males in 1998 as illustrated in Table 2, and will also present data on the top five leading causes of death within each age group as illustrated in Table 3. The report will provide a detailed description of the mortality trends for the 10 leading causes of death in African-American males in Michigan. These are diseases of the heart (DOH), cancer, homicide, unintentional injuries, stroke, pneumonia and influenza, diabetes, chronic obstructive pulmonary disease (COPD), AIDS, and chronic liver disease.

Information will also be provided on suicide since it is one of the top five leading causes of death in the 15-24 and 25-34-year-old age groups. Each section will provide a summary of background information, descriptive epidemiology including risk factors, and intervention efforts that are either being undertaken or could be undertaken to address these issues.

Table 2. Age-Adjusted Mortality Rates and Mortality Rate Ratios for the 10 Leading Causes of Death for African-American (AA) Males compared with White Males Michigan 1998

Cause of Death	Age-Adjusted Mortality Rate (per 100,000)		Mortality Rate Ratio
	AA Males	White Males	AA/ White
Diseases of the Heart	251.3	174.8	1.4
Cancer	209.7	143.3	1.5
Homicide	64.9	3.7	17.5
Unintentional Injuries	50.6	36.0	1.4
Stroke	43.4	26.1	1.7
Pneumonia/Influenza	31.1	15.5	2.0
Diabetes Mellitus	24.7	14.4	1.7
Chronic Obstructive Pulmonary Disease	23.9	25.5	0.9
AIDS	19.7	2.0	9.9
Chronic Liver Disease/Cirrhosis	18.8	10.8	1.7
Total	922.6	565.4	1.6

Note: *Age-adjusted death rates are based on age-specific death rates per 100,000 population in specified group. 1997estimated population is used to calculate 1998 rate. Age-adjusted death rates are computed by the direct method, using as the standard population the age distribution of the total population of the United States as enumerated in 1940.*

Source: *Michigan Resident Death Files, Division for Vital Records and Health Statistics, Michigan Department of Community Health, Population Estimate File (latest update 9/98), Office of the State Demographer, Michigan Department of Management and Budget.*

Descriptive Epidemiology - Life Expectancy

Life expectancy in the U.S. has increased dramatically this century. For example, the life

expectancy of men and women in the U.S. in 1901 was 47.6 and 50.6 years, respectively. However, by 1997, life expectancy in men and women had increased to 73.6 and 79.2 years, respectively. Life expectancy is obviously intrinsically linked to the overall (all-cause) mortality rate. It is the decline in all-cause mortality that has resulted in longer life expectancies over this century. Overall, the life expectancy among men and women in Michigan is slightly lower than that for the country as a whole. For example, in 1997, the life expectancy in Michigan men was 73.2 years, compared with 73.6 years for all U.S. men. Similarly, the life expectancy in Michigan women was 78.7 years, compared with 79.2 years for all U.S. women.

Race and Gender Comparisons (See Figures 1- 3)

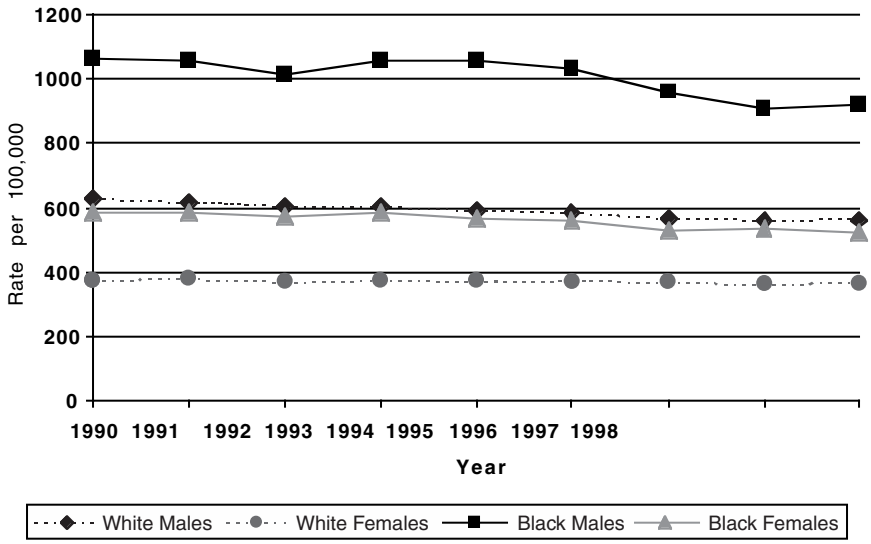
The age-adjusted all-cause mortality rate for Black males in Michigan is considerably higher than that of any other sub-group (Figure 1). The age-adjusted mortality rates for Black females and white males are very similar, while white females have markedly lower all-cause mortality. Between 1990 and 1998, the age-adjusted all-cause mortality rate in Black males declined 13 percent from 1,062 per 100,000 to 923 per 100,000. This decline was larger than that seen in white males (9.6 percent), Black females (9.7 percent) or white females (2.4 percent). Because the overall death rate in Black males declined faster than in white males, the mortality rate ratio (calculated by dividing the mortality rate in Black males by the mortality rate in white males) declined slightly from 1.7 in 1990 to 1.6 in 1998. This ratio illustrates that the overall mortality rate of Black males in 1998 is still 60 percent higher than that of white males. This large racial gap in overall mortality among men is also observed among women; the mortality rate ratio for Black women versus white women in 1990 and 1998 was 1.5 and 1.4, respectively.

The age-adjusted overall mortality rates attempt to capture the total mortality experience across all ages. However, the age at which death occurs is obviously critically important. From a public health perspective, premature mortality is defined as any death that occurs before age 75 which is the approximate overall life expectancy for the current U.S. population. One measure or index of premature mortality is Years of Potential Life Lost (YPLL) that is calculated by simply summing up the number of years of life lost for every death that occurred before age 75. For example, a death at 35 contributes 40 years of YPLL. The total YPLL for a particular population sub-group can then be expressed as a rate per 100,000 in order to make valid comparisons between sub-groups. Obviously, causes of death that are common in young age groups, such as unintentional injury and homicide, contribute the most to the YPLL index.

The rates of YPLL per 100,000 population are shown in Figure 2 for the four main sub-groups. African-American males have substantially higher premature mortality rates than any other sub-group, followed by Black females and then white males and females. In comparison to white males, the YPLL rate was 2.4 times higher in Black males in 1990 but had closed slightly to 2.1 times higher by 1998. This narrowing of the racial gap in YPLL among men occurred because the rate of YPLL had declined by a substantial 24 percent among Black men over the 1990-1998 period (from 22,722 to 17,213 per 100,000), while the YPLL rate among white men declined by 12 percent. A similar large decline in the YPLL rate among Black females during this period (i.e., 17 percent) resulted in a narrowing of the racial gap among females from 2.1 in 1990 to 1.9 in 1998. Thus, while substantial racial discrepancies in premature mortality still exist in Michigan, progress has been made in the 1990s to reduce these differences.

The life expectancy for Black males in Michigan in 1998 was 66.8 years, which was considerably shorter than that for white males (74.4 years), Black females (74.8 years), or white females (79.5 years). The survival experience of each of the four major race and gender groups between ages 15 and 75 is shown in Figure 3. These survival curves represent the estimated proportion within each race and gender group that have survived since birth. At age 15, there are small differences in the proportion of the population surviving (i.e., 97.8% for Black males, 98.9% for white males, 98.3% for Black females and 99.2% for white females). After age 20-25, there is an increasing discrepancy in the survival experience of Black

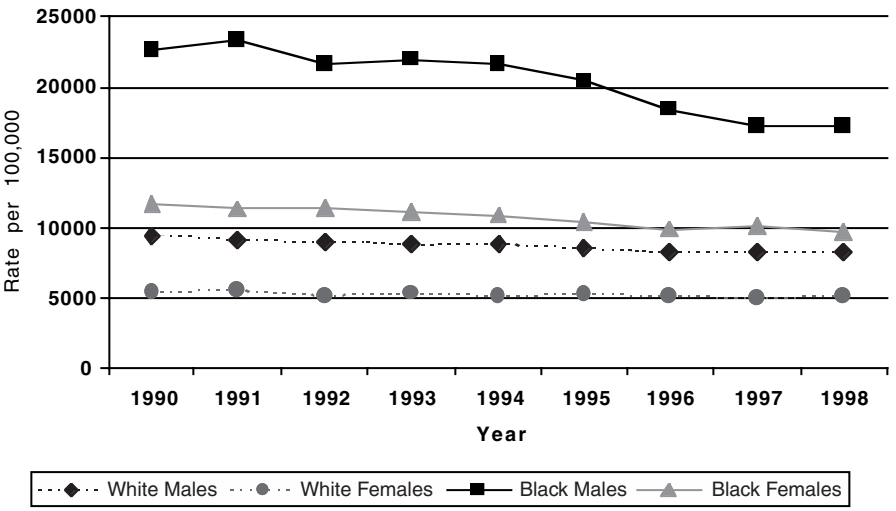
Figure 1: Age-Adjusted Overall (All-Cause) Mortality Rates (per 100,000) by Race and Gender, Michigan 1990-1998



Note: *Rates are based on age-specific death rates per 100,000 population in specified group. Computed by the direct method, using as the standard population the age distribution of the total population of the United States as enumerated in 1940. Michigan rates of 1991-1996 have been revised based upon revisions to population estimates.*

Source: *Michigan Resident Death Files, Division for Vital Records and Health Statistics, Michigan Department of Community Health, Population Estimate File (latest update 9/98). Office of the State Demographer, Michigan Department of Management and Budget.*

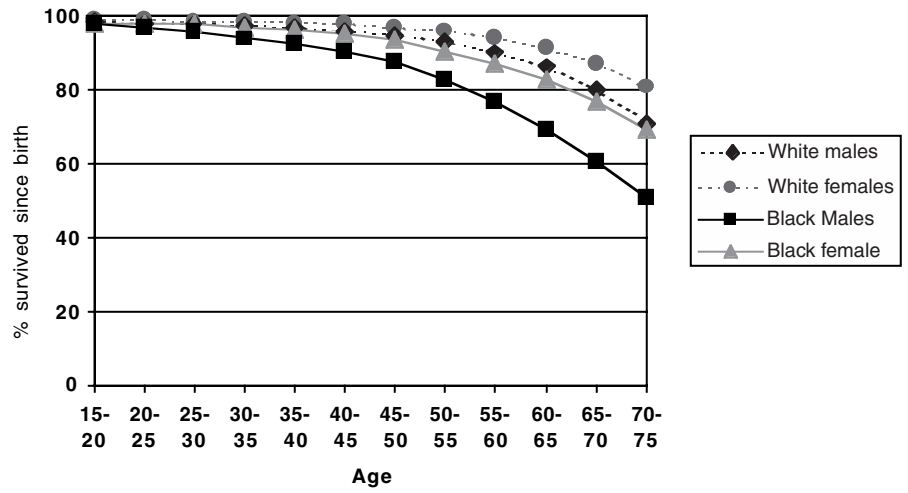
Figure 2: Rate of Years of Potential Life Lost (per 100,000) for Ages < 75, by Race and Gender, Michigan 1990-1998



Note: *The years of potential life lost below age 75 is a measure of mortality designed to emphasize mortality which is prevalent among people under age 75. The number of years of potential life lost is calculated as the number of years between the age at death and 75 years of age for persons dying before their 75th year.*

Source: *1998 Michigan Resident Death File, Division for Vital Records and Health Statistics, Michigan Department of Community Health and the Population Estimate File (latest update 6/98), Office of the State Demographer, Michigan Department of Management and Budget.*

Figure 3: Survival Curves for Ages 15 Through 75 by Race and Gender, Michigan 1998



Note: *The survival rate is the expected proportion of the population remaining alive for a given age group.*

Source: *1998 Michigan Resident Death File, Division for Vital Records and Health Statistics, Michigan Department of Community Health.*

males compared with the other race and gender groups, such that only 61 percent of African-American males survive to age 70. This proportion of Black males still alive at age 70 is substantially lower than that for Black females (69 percent), white males (71 percent), and white females (81 percent.)

The listing of the 10 leading causes of death among African-American males in 1998 is shown in Table 2. Diseases of the heart and cancer are the two single most important causes of mortality in African-American males, accounting for half of the total age-adjusted mortality. Table 2 also includes the age-adjusted mortality rates for white males and a comparison of the mortality rate ratios (Black males compared with white males) for each cause of death. Notice first that the mortality in African-American males is higher than in white males for every disease except chronic obstructive pulmonary disease (COPD). Second, note that after diseases of the heart and cancer, the listing of the top causes of death among white males is very different from that for Black males. This is a reflection of the substantial racial differences in mortality that exist for two diseases in particular: homicide which is over 17 times more common in Black males than white males, and death from AIDS which is almost 10 times more common in African-American than in white men.

Table 3 presents the top five leading causes of death in 1998 for the different age groups of African-American males, and compares both the absolute number of deaths and the age-specific rates between 1990 and 1998. This table helps to identify where improvements have occurred in the mortality experience of African-American males during the 1990s. Examining the age-adjusted mortality rates for the five leading causes of death (shown at the top of Table 3), we can see that substantial improvements in mortality have occurred for diseases of the heart, cancer and homicide between 1990 and 1998. The largest percentage decline in mortality was observed for homicide which declined 38 percent (from 104.4 in 1990 to 64.9 in 1998). Mortality from diseases of the heart declined 16 percent among African-American males, while cancer mortality declined 9 percent. Small increases in the age-adjusted mortality rate from unintentional injuries (5 percent) and stroke (2 percent) were observed during this period. ■

Table 3. Top Five Leading Causes of Death in 1998 for African-American Males, Total Numbers, Age-Adjusted and Age-Specific Mortality Rates, Michigan 1990 and 1998

	1990	1998	1990	1998
All Ages	**Number**		**Age-Adjusted Rate**	
1. Diseases of the Heart	1,842	1,757	299.6	251.3
2. Cancer	1,372	1,421	231.0	209.7
3. Homicide	628	421	104.4	64.9
4. Unintentional Injuries	286	342	48.1	50.6
5. Stroke	264	315	42.6	43.4
All Causes	6,552	6,405	1,062.3	922.6
Under 1 Year	**Number**		**Age-specific Rate**	
1. Certain Conditions Originating in the Perinatal Period	236	123	1,524.1	800.1
2. Sudden Infant Death Syndrome	51	35	329.4	227.7
3. Congenital Anomalies	35	17	226.0	110.6
4. Unintentional Injuries	8	8	51.7	52.0
5. Homicide	7	6	45.2	39.0
All Causes	376	213	2,428.2	1,385.5
1-4 Years	**Number**		**Age-specific Rate**	
1. Unintentional Injuries	14	18	28.3	33.5
2. Homicide	0	12	*	22.3
3. Congenital Anomalies	4	6	*	11.2
4. Cancer	2	2	*	*
5. Pneumonia & Influenza	0	1	*	*
All Causes	42	47	85.0	87.4

Table 3 continued

5-14 Years	Number		Age-specific Rate	
1. Unintentional Injuries	17	31	15.1	24.0
2. Cancer	3	8	*	6.2
3. Homicide	7	6	6.2	4.7
4. Chronic Obstructive Pulmonary Diseases & Allied Conditions	2	2	*	*
5. AIDS	0	2	*	*
All Causes	38	65	33.7	50.4

15-24 Years	Number		Age-specific Rate	
1. Homicide	274	147	242.6	118.9
2. Unintentional Injuries	44	45	39.0	36.4
3. Suicide	26	14	23.0	11.3
4. Diseases of the Heart	6	12	5.3	9.7
5. Chronic Obstructive Pulmonary Diseases & Allied Conditions	2	7	*	5.7
All Causes	405	250	358.6	202.2

25-34 Years	Number		Age-specific Rate	
1. Homicide	173	134	177.9	137.5
2. Unintentional Injuries	38	64	39.1	65.7
3. Diseases of the Heart	23	24	23.7	24.6
4. Suicide	29	17	29.8	17.4
5. AIDS	47	17	48.3	17.4
All Causes	421	334	433.0	342.6

35-49 Years	Number		Age-specific Rate	
1. Diseases of the Heart	188	196	167.6	142.0
2. Cancer	114	134	101.6	97.1
3. Homicide	126	89	112.3	64.5
4. AIDS	67	87	59.0	63.0
5. Unintentional Injuries	70	82	62.4	59.4
All Causes	966	976	861.3	707.3

50-64 Years	Number		Age-specific Rate	
1. Diseases of the Heart	444	436	722.9	632.2
2. Cancer	388	376	631.7	545.2
3. Stroke	70	55	114.0	79.7
4. Pneumonia and Influenza	35	43	56.8	62.3
5. Chronic Liver Disease & Cirrhosis	54	41	87.9	59.4
All Causes	1,313	1,349	2,137.6	1,956.0

65 and Over	Number		Age-specific Rate	
1. Diseases of the Heart	1,175	1,084	2,601.1	2,116.5
2. Cancer	840	883	1,859.5	1,724.1
3. Stroke	164	211	363.0	412.0
4. Pneumonia and Influenza	114	140	252.4	273.4
5. Chronic Obstructive Pulmonary Diseases & Allied Conditions	105	114	232.4	222.6
All Causes	2,991	3,170	6,621.2	6,189.5

Note: *Age-adjusted death rates are based on age-specific death rates per 100,000 population in specified group. 1997 estimated population is used to calculate 1998 rate. Age-adjusted death rates are computed by the direct method, using as the standard population the age distribution of the total population of the United States as enumerated in 1940.*

Source: *1998 Michigan Resident Death File, Division for Vital Records and Health Statistics, Michigan Department of Community Health.*

**indicates that data do not meet the standards of precision or reliability*

Diseases of the Heart

Introduction

Diseases of the heart (DOH) include a wide variety of cardiac conditions such as ischemic or coronary heart disease, as well as rheumatic heart disease, hypertensive heart disease, disease of the pulmonary circulation, cardiomyopathy and dysrhythmia. In the long term, many of these conditions can lead to heart failure which is also included in this grouping. The most common condition within DOH is ischemic or coronary heart disease which accounts for over 60 percent of all DOH, and can result clinically in heart attack and angina.

Descriptive Epidemiology

Diseases of the heart are the leading cause of mortality in the U.S. and in Michigan, accounting for over 30 percent of all deaths. Michigan's DOH mortality rates tend to be slightly lower than those nationally. Mortality from DOH increases sharply with age, is higher in men and minority populations. Since the late 1960s, mortality from DOH has declined markedly in all major race and gender groups, although overall declines have been greater among whites than Blacks.

Race and Gender Comparisons (See Figure 4)

In Michigan, as in the rest of the U.S., DOH mortality is substantially higher in men than in women (by a factor of almost two), and is also higher in Blacks than whites. Between 1990 and 1998, the age-adjusted DOH mortality rate for both Black males and white males declined 16 percent (from 299.6 to 251.3 per 100,000 in Black males, and 208.3 to 174.8 per 100,000 in white males). Thus, the mortality rate ratio for Black males compared with white males remained the same at 1.44 in both 1990 and 1998.

During the 1990-1998 period, age-adjusted DOH mortality declined 15 percent and 12 percent for Black and white women, respectively. The mortality rate ratio therefore changed only slightly from 1.62 in 1990 to 1.57 in 1998.

Risk Factors

Moderately strong risk factors (i.e., relative risks between 2 and 4), include high blood pressure, high blood cholesterol, diabetes, and smoking. (Note that the relative risk is a standard epidemiologic measure of the magnitude of the association between a risk factor and disease — the larger the relative risk, the greater the degree of association between the two). Cholesterol is the single largest contributor to the total DOH burden, accounting for between 39 percent and 47 percent of DOH. High blood pressure is thought to be responsible for 20 percent to 30 percent of the burden of DOH, followed by smoking which accounts for 17 percent to 25 percent. Weak heart disease risk factors (i.e., relative risks < 2) include obesity, physical inactivity and exposure to environmental tobacco smoke.

Program Perspectives

The Cardiovascular Disease Prevention Program is a statewide effort focusing on reducing the behavioral risk factors that lead to heart disease and stroke. The focus is on population-wide strategies, while at the same time targeting high-risk groups, mainly African-Americans.

Services are offered around the state that include heart health screening and education about controlling risk factors. These services assist in reducing tobacco use, controlling blood pressure and cholesterol, improving dietary patterns, and increasing physical activity. Other services include community awareness activities, a media campaign, and community health events. Activities and services are offered in communities and work sites through a network of private vendors and local health departments. In addition to these activities, there are special initiatives to reduce the risk of heart disease and stroke among African-Americans:

- A faith-based outreach network in the city of Detroit to enable members of the African-American community to receive chronic disease

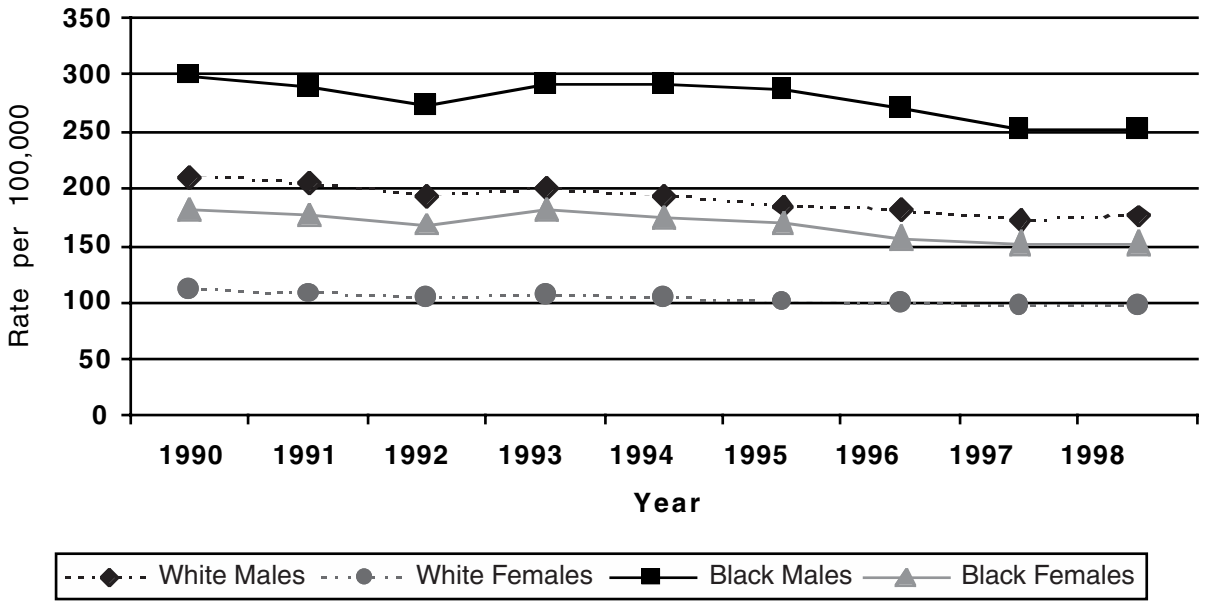
prevention services focusing on heart disease, stroke, diabetes, cancer and violence prevention. This initiative provides mini-grants to approximately 40 faith-based organizations annually. Organizations involved in this project provide a varied mix of onsite activities and services such as screening, health exams, health fairs, information and referral initiatives, workshops, and counseling.

- A media campaign in collaboration with the American Heart Association to use television, radio and print media to focus on heart disease and stroke prevention in African-Americans.

- A variety of community-based projects providing health screening and information programs in collaboration with community-based organizations, barber shops, churches and beauty salons focusing on hypertension, heart disease and stroke. An African-American cookbook to improve healthy eating is also being promoted.
- A special outreach program to recruit minority businesses to apply for work site grants to provide heart disease and stroke prevention services for employees.

- A Blood Pressure Sunday project providing blood pressure screening and referral in African-American churches in Detroit during the month of May. ■

Figure 4: Age-Adjusted Diseases of the Heart Mortality Rates (per 100,000) by Race and Gender, Michigan 1990-1998



Note: *Age-adjusted rates are based on age-specific death rates per 100,000 population in specified group. Computed by the direct method, using as the standard population the age distribution of the total population of the United States as enumerated in 1940. Michigan rates for 1991-1996 have been revised based upon revisions to population estimates.*

Source: *Michigan Resident Death Files, Division for Vital Records and Health Statistics, Michigan Department of Community Health, Population Estimate File (latest update 9/98). Office of the State Demographer, Michigan Department of Management and Budget.*

Cancer

Introduction

Cancer occurs when tissue undergoes unregulated cell division as a result of damage to its genetic material. Some cancers may become invasive by spreading or metastasizing through the blood or lymph system to involve another part of the body.

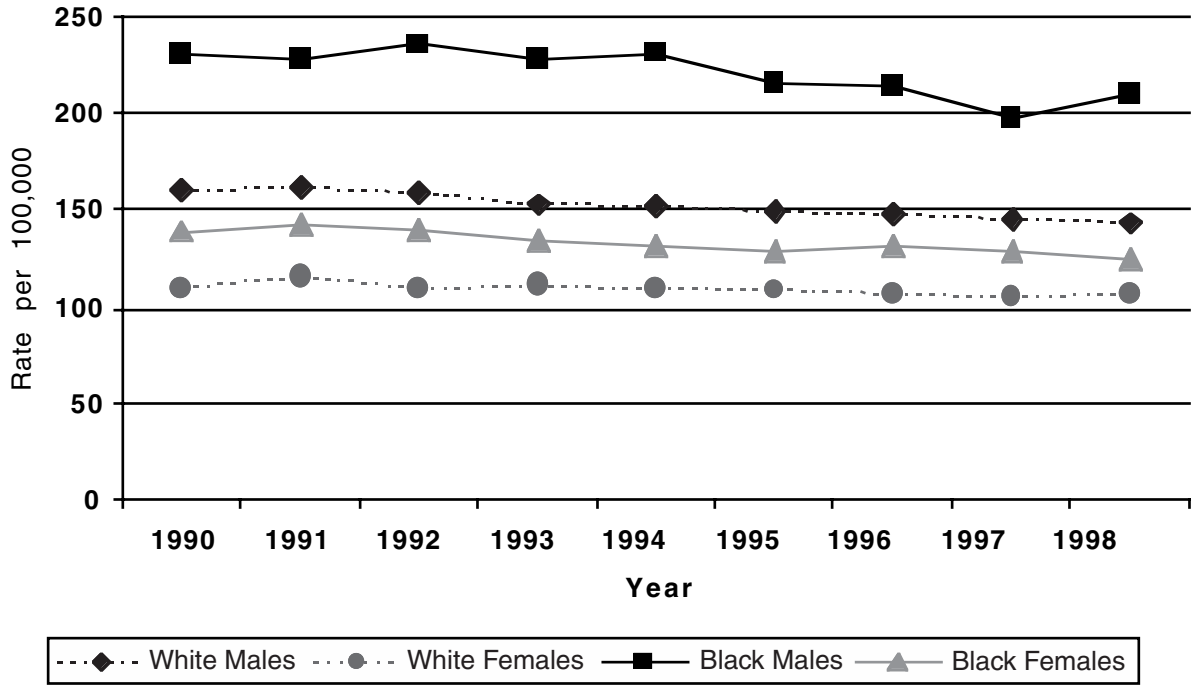
Descriptive Epidemiology

In the United States and Michigan cancer is the second leading overall cause of death. In terms of incidence, the three most common cancers in African-American males in the U.S. are (in order) prostate, lung, and colorectal. Lung cancer, however, is responsible for more cancer deaths than prostate cancer. Despite basically similar trends in cancer incidence among whites and Blacks, obvious racial differences in age-adjusted mortality rates and survival (as measured by five-year survival rates) suggest that access to early detection screening programs and treatment services may be a problem. In 1960, mortality rates for African-Americans and whites were nearly identical; however, today in the United States, the overall age-adjusted cancer mortality rate in African-Americans is about 60 percent higher than it is for whites.

Race and Gender Comparisons (See Figure 5)

In Michigan, the overall age-adjusted cancer mortality rate decreased from 136.3 per 100,000 in 1990 to 126.1 per

Figure 5: Age-Adjusted Cancer Mortality Rates (per 100,000) by Race and Gender, Michigan 1990-1998



Note: *Age-adjusted rates are based on age-specific death rates per 100,000 population in specified group. Computed by the direct method, using as the standard population the age distribution of the total population of the United States as enumerated in 1940. Michigan rates for 1991-1996 have been revised based upon revisions to population estimates.*

Source: *Michigan Resident Death Files, Division for Vital Records and Health Statistics, Michigan Department of Community Health, Population Estimate File (latest update 9/98). Office of the State Demographer, Michigan Department of Management and Budget.*

100,000 for the total population, representing an overall decline of 7.5 percent. The overall age-adjusted cancer mortality rates for white males declined by 10 percent from 160.0 per 100,000 in 1990 to 143.3 per 100,000 in 1998, while among Black males it declined by 9 percent from 231.0 per 100,000 in 1990 to 209.7 per 100,000 in 1998. Thus, the mortality rate ratio for Black males compared with white males remained virtually the same at 1.46 in 1998. The three leading causes of cancer death among African-American males in Michigan (lung, prostate, and colo-rectal cancer) constituted 31 percent, 16 percent, and 8 percent of all Black male cancer deaths in 1998.

In contrast to men, the age-adjusted overall cancer mortality rate for white females declined by only 4 percent from 110.9 per 100,000 in 1990 to 106.7 per 100,000 in 1998, while among Black females it declined by 10 percent from 138.2 per 100,000 in 1990 to 124.4 per 100,000 in 1998. The mortality rate ratio for Black females compared with white females declined slightly from 1.25 in 1990 to 1.17 in 1998. This ratio illustrates that the racial disparity in cancer mortality among women is considerably less than that among men.

Risk Factors

Modifiable risk factors for cancer include tobacco use, unhealthy eating habits, lack of exercise, long-term exposure to the sun, non-use of screening services and possible exposure to environmental toxins and hazards. Non-modifiable risk factors for cancer include family history, age, race and gender and certain genetic markers or genes. It is clear that reducing the prevalence of smoking and improving diet by incorporating more fresh fruits and vegetables and eating less fat could significantly reduce the cancer incidence and mortality in the population.

Program Perspectives

MDCH provides funding to several community-based agencies to conduct tobacco prevention activities among communities of color, including African-American men. These programs address smoking prevention, smoking cessation, and smoking awareness. Tobacco community coalitions in inner city areas conduct similar activities targeted toward African-American men who congregate in such places as barber shops. Anti-tobacco media spots and other advertising materials have been developed specifically to reach the African-American male.

Fliers have been developed for the African-American community encouraging men to talk with their doctor about prostate cancer. Culturally-sensitive materials are under development that will explain the treatment choices a man has when diagnosed with prostate cancer. A colorectal cancer information campaign is under consideration. If initiated, such a campaign would include specific messages for African-American men urging them to get screening for colorectal cancer. A broad-based, statewide public-private initiative is recommending implementation of cancer control plans in all of these areas and more. ■

Homicide

Introduction

Homicide is the negligent or intentional killing of one person by another. It was the twelfth overall leading cause of death in Michigan in 1998, but the third leading cause of death for African-American males. Homicides are an important public health concern for African-American males because they contribute substantially to the years of potential life lost.

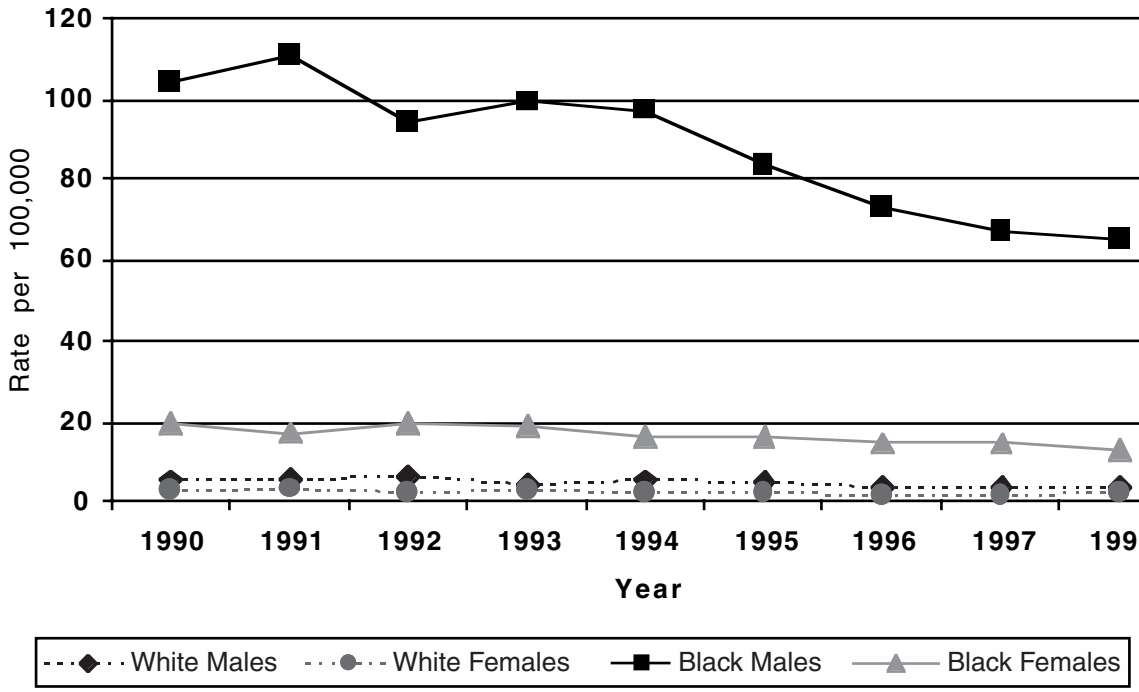
Descriptive Epidemiology

In 1997, homicide was the fifth leading cause of mortality in African-American males in the U.S., although it did not rank in the top 10 leading causes of death for the total U.S. population. Homicide rates in Michigan and the United States have fallen since 1990. Between 1990-1997, the overall age-adjusted homicide rate in the United States declined 22 percent (from 10.2 to 8.0 per 100,000). The largest decline in homicide rates nationally was seen among African-American males which declined 30 percent (from 68.7 to 48.3 per 100,000). The decline among African-American females was 28 percent (from 13.0 to 9.3 per 100,000), while homicide rates declined 21 percent among white males (from 8.9 to 7.0 per 100,000) and 18 percent among white females (from 2.8 to 2.3 per 100,000).

Race and Gender Comparisons (See Figure 6)

Between 1990 and 1998 the overall age-adjusted homicide rate in Michigan declined 30 percent, from 12.0 per 100,000 to 8.4 per 100,00. The African-American male age-adjusted

Figure 6: Age-Adjusted Homicide Mortality Rates (per 100,000) by Race and Gender, Michigan 1990-1998



Note: *Age-adjusted rates are based on age-specific death rates per 100,000 population in specified group. Computed by the direct method, using as the standard population the age distribution of the total population of the United States as enumerated in 1940. Michigan rates for 1991-1996 have been revised based upon revisions to population estimates.*

Source: *Michigan Resident Death Files, Division for Vital Records and Health Statistics, Michigan Department of Community Health, Population Estimate File (latest update 9/98). Office of the State Demographer, Michigan Department of Management and Budget.*

homicide rate declined substantially by 38 percent, from 104.4 per 100,000 in 1990 to 64.9 per 100,000 in 1998. During this same period, the homicide rate declined 31 percent in African-American females (from 19.2 to 13.2 per 100,000), 30 percent in white males (from 5.3 to 3.7 per 100,000), and 23 percent in white females (from 2.6 to 2.0 per 100,000). The homicide mortality rate ratio for African-American males compared with white males declined from 19.7 in 1990 to 17.5 in 1998.

Homicide rates in Michigan have therefore declined at a faster rate than nationally, but homicide rates in African-Americans in Michigan (both males and females) are still higher than national rates. The homicide rates among Michigan's white population are lower than those seen nationally.

Despite the large reduction in the age-adjusted homicide rate among Black males, homicide still constitutes a relatively high proportion of African-American male mortality. Homicide is the major contributor to years of potential life lost for African-American males because most homicides occur among younger age groups. In 1998, more than 66 percent of homicides in African-American males were between the ages of 15-34 years.

Risk Factors

The risk factors for homicide are not as well defined as they are for many of the other causes of death. Since more than 75 percent of homicides are committed with a firearm, the availability of guns is an important factor. Many homicides involve alcohol and drugs, or are committed in conjunction with another criminal act. Ninety percent of African-American homicides are committed by African-Americans.

Program Perspectives

Since 1994, the Michigan Department of Community Health has supported a variety of community, school, and statewide violence prevention initiatives to reduce youth violence. These efforts have included targeted efforts to reduce youth violence in public housing projects, male and female responsibility programs, conflict resolution, and peer mediation programs. In addition, MDCH has been involved in the development of violence prevention content and curriculum lessons for the Michigan Model for Comprehensive School Health Education, and has developed targeted media campaigns for gun violence, domestic violence and dating violence. The department has increased community interpersonal violence incident, assault and homicide data collection and surveillance efforts in collaboration with the Prosecuting Attorneys Association of Michigan, Michigan Association of Medical Examiners, and hospital emergency departments. The department has provided consultation and assistance to communities in conducting youth violence assessments and in obtaining foundation, federal and private sources of funding. ■

Unintentional Injury Deaths

Introduction

Unintentional injury deaths are all external causes of death that are not classified as either homicides, suicides or as injury deaths of undetermined cause. Motor vehicles (47 percent), falls (15 percent), poisonings (7 percent), and drowning (4 percent) accounted for three-quarters of all unintentional injury deaths in 1998 in Michigan.

Descriptive Epidemiology

In 1997, deaths from unintentional injuries were the third leading cause of mortality in African- American males in the U.S., and the fifth leading cause for the total U.S. population. From 1990 to 1997, the age-adjusted mortality rate from unintentional injuries in the United States declined 7 percent, from 32.5 per 100,000 to 30.1 per 100,000. The rate for African-American males declined 13 percent (from 62.4 to 54.2 per 100,000), the rate for white males dropped 9 percent (from 46.4 to 42.0 per 100,000), and the rate for white females declined 1 percent (from 17.6 to 17.5 per 100,000). The rate for African-American females remained unchanged at 20.4 per 100,000.

Race and Gender Comparisons (See Figure 7)

In 1998, unintentional injury deaths were the fourth leading cause of mortality (based on age-adjusted rates) for African-American males in Michigan. Although the overall age-adjusted mortality rate from unintentional injuries in Michigan declined 9 percent from 29.3 per 100,000 to 26.8 per 100,000 between 1990 and 1998, the age-adjusted unintentional injury mortality rate increased among African-American males by 5 percent (from 48.1 per 100,000 in 1990 to 50.6 per 100,000 in 1998). The unintentional injury mortality rate for white males decreased 15 percent (from 42.2 to 36.0 per 100,000), thus the mortality rate ratio for African-American males versus white males increased from 1.1 in 1990 to 1.4 in 1998.

Likewise, from 1990 to 1998, the age-adjusted mortality rate for African-American females increased 9 percent (from 16.2 to 17.6 per 100,000), while the rate for white females decreased 4 percent (from 16.8 to 16.1 per 100,000). These changes resulted in an increase in the mortality rate ratio from 1.0 in 1990 to 1.1 in 1998.

The increase in the age-adjusted mortality rate from unintentional injury in African-American males in Michigan during the 1990 to 1998 period was not observed nationally. Most of this increase appears to have been due to greater numbers of deaths from motor vehicle accidents (128 deaths in 1990; 161 deaths in 1998), accidental poisonings (10 deaths in 1990; 42 deaths in 1998) and accidental drownings (12 deaths in 1990; 28 deaths in 1998). Within specific age groups, large increases in the unintentional injury mortality rate were observed among 5-14-year- olds (where the rate increased 59 percent) and 25-34-year-olds (where the rate increased 68 percent).

Risk Factors

The risk factors for unintentional injury deaths vary with the specific cause of injury. Alcohol and other drugs increase an individual's risk of injury for many causes. Additional risk factors for motor vehicle injuries are excessive speed, failure to use seat belts and child safety seats. Careless and unsafe storage of guns and chemicals present a serious risk for accidental shootings and poisonings. Not wearing a life preserver when on or near water and not wearing a helmet when riding a motorcycle or bicycle are other contributors to death from injury.

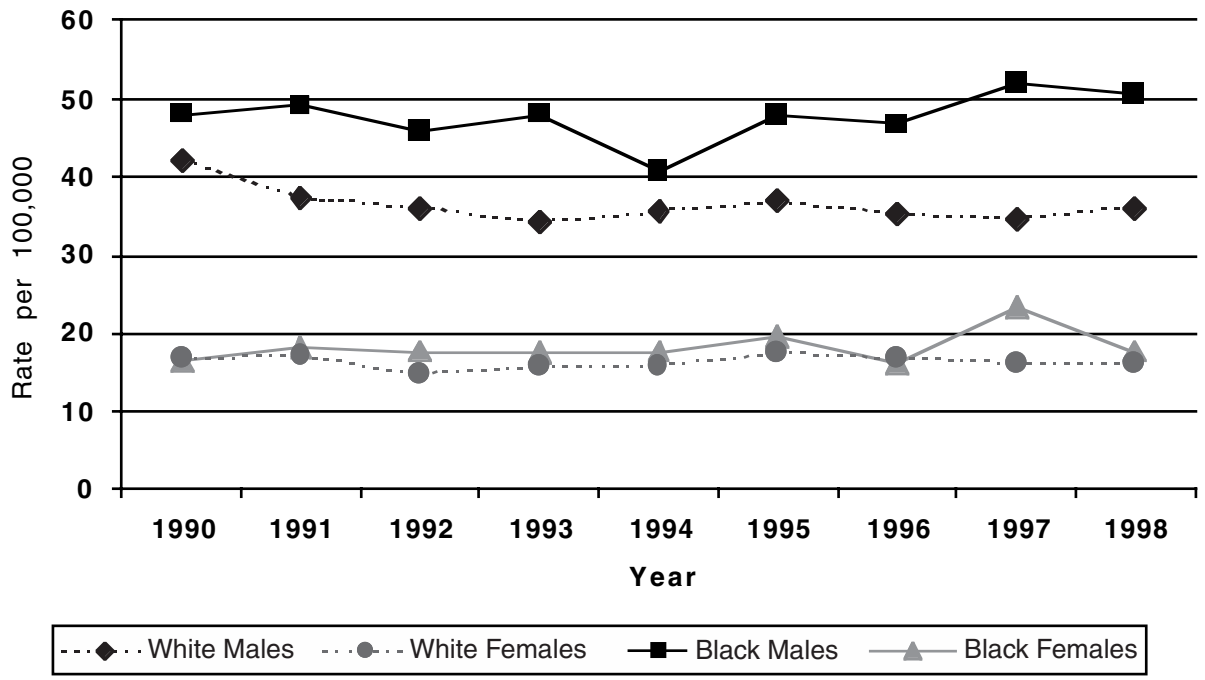
In addition to personal behaviors that increase the risk of accidental injury, engineering, education and legislation are areas that can affect the risk. Such things as the design of roads, fencing around swimming pools, proper training in the use of dangerous equipment or laws that regulate unsafe practices can all affect the risk of accidental injury.

Program Perspectives

The MDCH Childhood &

Unintentional Injury Prevention Section is responsible for reducing morbidity, mortality and risk behaviors related to unintentional injuries. The traffic safety program concentrates on child passenger safety, including correct installation and use of child safety seats and improved access in rural and low socioeconomic areas, and bicycle helmet use to prevent head and brain injuries as the result of a bicycle crash. The smoke alarm program provides resources to communities to decrease deaths and injuries due to residential fires through distribution and installation of smoke detectors in high-risk homes that do not have adequate smoke alarm coverage. The SAFE KIDS Program works through state and local coalitions at the grassroots level to increase public awareness of childhood injury and to educate parents and care givers on prevention. SAFE KIDS is dedicated to the prevention of unintentional injury for children ages 14 and under, focusing on the major risk areas of motor vehicle crashes, bicycle-related injuries, residential fires, drowning, scald burns, poisoning, choking and falls. A voluntary data collection system using a representative sample of 25 emergency departments throughout the state is being implemented to provide data on the types and causes of injuries, injury severity, and demographic characteristics of people seen in emergency departments for traumatic injuries. On the poisoning prevention front, MDCH provides approximately $700,000 each year to support a Michigan Poison Control System administered by two regional certified poison control centers, Children's Hospital of Michigan in Detroit and Spectrum Health System in Grand Rapids. These centers provide full-time toll-free telephone access for triage and first aid advice. They also offer public and professional education regarding poisoning prevention and treatment. ■

Figure 7: Age-Adjusted Unintentional Injury Mortality Rates (per 100,000) by Race and Gender, Michigan 1990-1998



Note: *Age-adjusted rates are based on age-specific death rates per 100,000 population in specified group. Computed by the direct method, using as the standard population the age distribution of the total population of the United States as enumerated in 1940. Michigan rates for 1991-1996 have been revised based upon revisions to population estimates.*

Source: *Michigan Resident Death Files, Division for Vital Records and Health Statistics, Michigan Department of Community Health, Population Estimate File (latest update 9/98). Office of the State Demographer, Michigan Department of Management and Budget.*

Stroke

Introduction

Stroke or a cerebrovascular accident occur when a cerebral artery either ruptures or is clogged by a thrombus or plaque resulting in ischemia, cell death, and eventual neurologic disability. Cerebral thrombosis and embolism, referred to as ischemic stroke, accounts for about 70% to 80% of all strokes in the U.S. Cerebral hemorrhage accounts for the majority of the remaining strokes and occurs when an artery bleeds either into the brain tissue itself (intracerebral hemorrhage) or into the space between the brain and the skull (sub-arachnoid hemorrhage).

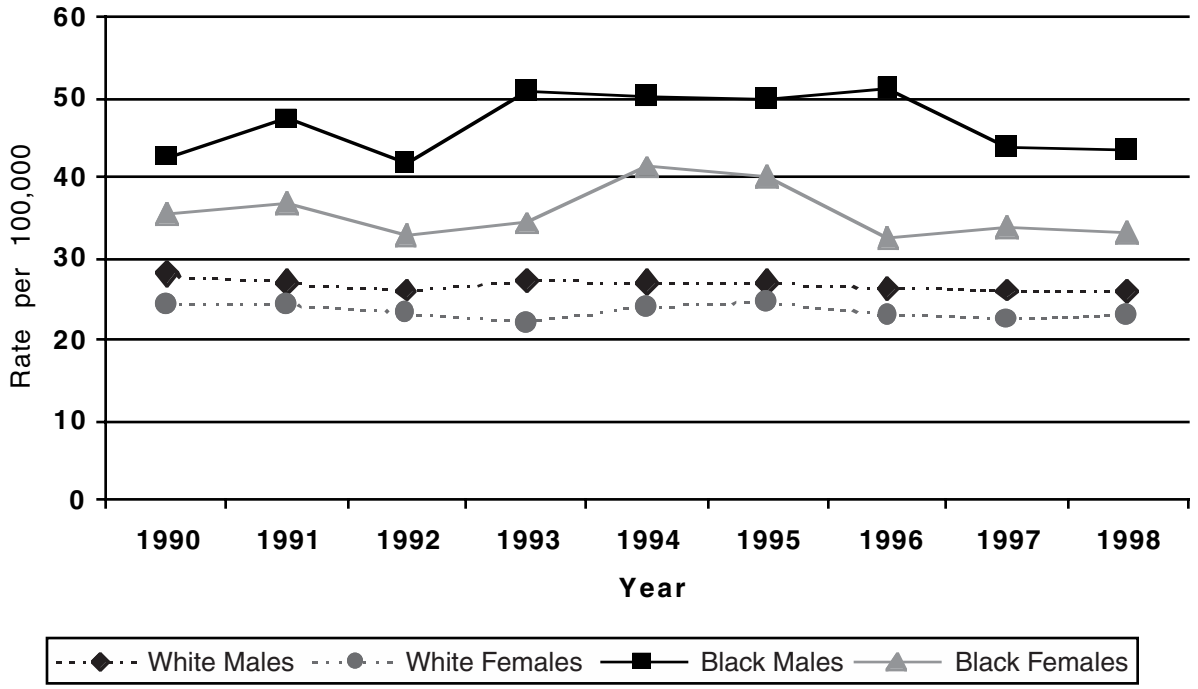
Descriptive Epidemiology

Stroke is the third leading cause of mortality in the U.S., accounting for approximately 7 percent of all deaths. Stroke mortality increases sharply with age, and is much higher in minority populations such as African-Americans compared with whites. Overall, the death rate from stroke has undergone remarkable declines over the past century in the U.S. Since 1960 alone, mortality from stroke has declined well over 50 percent in all major race and gender groups. Since 1992, however, stroke mortality rates have stabilized. In Michigan there is now evidence that stroke mortality may be increasing in African-Americans of all ages and in elderly whites.

Race and Gender Comparisons (See Figure 8)

In Michigan, as in the rest of the U.S., stroke mortality is

Figure 8: Age-Adjusted Stroke Mortality Rates (per 100,000) by Race and Gender, Michigan 1990-1998



Note: *Age-adjusted rates are based on age-specific death rates per 100,000 population in specified group. Computed by the direct method, using as the standard population the age distribution of the total population of the United States as enumerated in 1940. Michigan rates for 1991-1996 have been revised based upon revisions to population estimates.*

Source: *Michigan Resident Death Files, Division for Vital Records and Health Statistics, Michigan Department of Community Health, Population Estimate File (latest update 9/98). Office of the State Demographer, Michigan Department of Management and Budget.*

substantially higher in Blacks than whites and is also higher in men than women. Michigan's stroke mortality rates tend to be slightly less than those nationally. Between 1990 and 1998, the age-adjusted stroke mortality rate for Black males increased 2 percent (from 42.6 to 43.4 per 100,000), while the age-adjusted stroke mortality rate for white males decreased 7 percent (from 28.0 to 26.1 per 100,000). Thus, the mortality rate ratio for Black males compared with white males increased from 1.52 in 1990 to 1.66 in 1998.

Among women, age-adjusted stroke mortality rates declined 7 percent for African-Americans and 6 percent for whites during the 1990 to 1998 period, so the mortality rate ratio declined very slightly from 1.44 in 1990 to 1.42 in 1998.

Risk Factors

High blood pressure is the strongest risk factor for stroke (i.e., relative risk > 4) and contributes to about 25 percent of all strokes. Moderately strong risk factors (i.e., relative risks between 2 and 4) include high cholesterol, diabetes, smoking and pre-existing cardiovascular disease (e.g., atrial fibrillation, peripheral atherosclerosis, history of transient ischemic attacks [TIA]). Smoking is thought to account for up to 20 percent of all stroke events. Weaker stroke risk factors (i.e., relative risk < 2) include oral contraceptive use, obesity, physical inactivity and alcohol use.

Program Perspectives

The same information that applies to diseases of the heart applies to stroke since MDCH programs focus on cardiovascular disease as a whole. In addition, MDCH launched a more targeted focus on the prevention and treatment of stroke by organizing the Michigan Stroke Initiative (MSI). The purpose of MSI is to develop recommendations and strategies to help prevent stroke and to reduce the severity of outcomes and complications of stroke.

Representatives include physicians, nurses, hospitals, HMOs, statewide medical organizations and the American Heart Association. The focus will be on increasing public awareness about the risk factors for stroke, early warning signs of stroke, and the importance of calling 911; implementing community-based initiatives to prevent and control major risk factors for stroke, particularly targeting the African-American population; developing educational initiatives and tools for health professionals on the prevention and treatment of stroke; and working with hospitals to develop optimal systems of care for stroke treatment and rehabilitation. ■

Influenza and Pneumonia

Introduction

Pneumonia is a bacterial (or occasionally viral) infection of the lungs. Influenza, also referred to as the flu, is a specific viral infection that can affect the entire respiratory tract. Influenza commonly occurs in epidemics that can develop and spread rapidly. Very occasionally influenza pandemics (epidemic over a large area) occur that result in sudden, massive increases in mortality. Most people fully recover from influenza in one to two weeks. Both influenza and pneumonia, however, can develop into potentially life-threatening medical conditions, especially in the very young, the very old and immuno-compromised individuals.

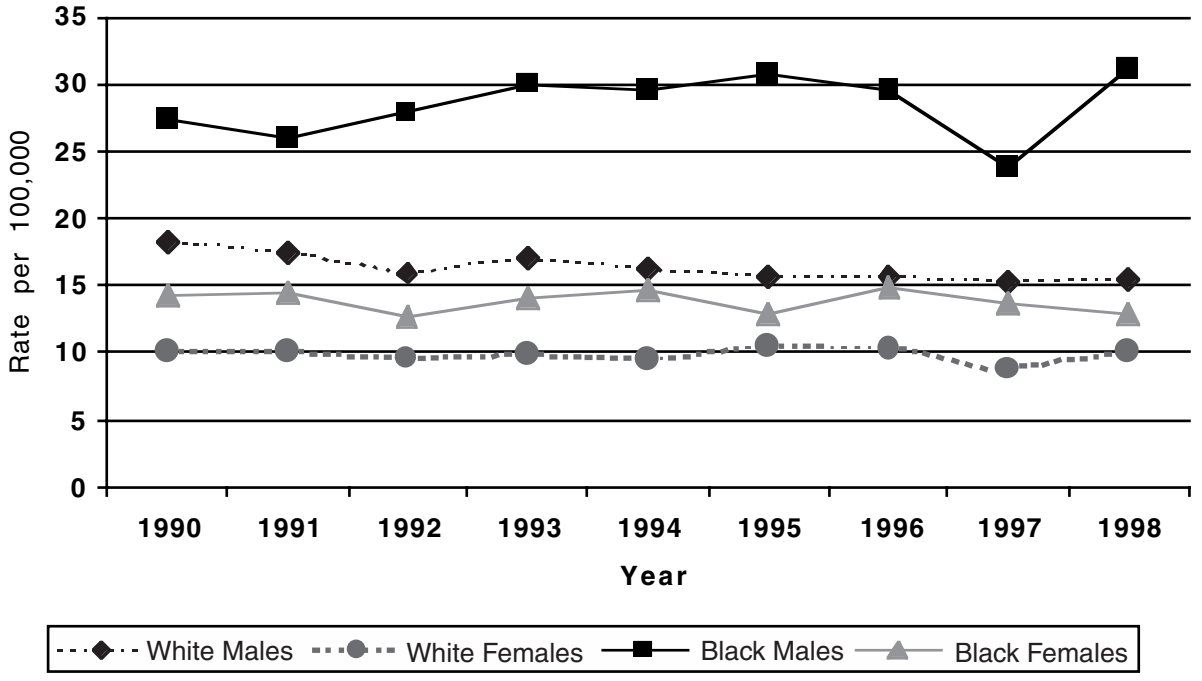
Descriptive Epidemiology

Pneumonia and influenza ranked as the sixth leading cause of death overall both in the United States and Michigan in 1998. Before 1936, pneumonia was the number one cause of death in the United States. Since then the use of antibiotics in combination with increased understanding of the nature and seriousness of flu epidemics, as well as the widespread use of improved vaccines, has reduced overall mortality. In this century, pandemics occurred in 1918, 1957 and 1968.

Race And Gender Comparisons (See Figure 9)

In Michigan, the overall age-adjusted mortality rate from

Figure 9: Age-Adjusted Pneumonia and Influenza Mortality Rates (per 100,000) by Race and Gender, Michigan 1990-1998



Note: *Age-adjusted rates are based on age-specific death rates per 100,000 population in specified group. Computed by the direct method, using as the standard population the age distribution of the total population of the United States as enumerated in 1940. Michigan rates for 1991-1996 have been revised based upon revisions to population estimates.*

Source: *Michigan Resident Death Files, Division for Vital Records and Health Statistics, Michigan Department of Community Health, Population Estimate File (latest update 9/98). Office of the State Demographer, Michigan Department of Management and Budget.*

pneumonia and influenza has declined by 6 percent from 14.1 per 100,000 in 1990 to 13.3 per 100,000 in 1998. The age-adjusted mortality rates for white males in Michigan declined by 15 percent from 18.2 per 100,000 in 1990 to 15.5 per 100,000 in 1998. In contrast, age-adjusted mortality rates increased for Black males in Michigan by 14 percent from 27.4 per 100,000 in 1990 to 31.1 per 100,000 in 1998. Thus the mortality rate ratio for Black males compared with white males increased from 1.5 in 1990 to 2.0 in 1998.

The death rate for pneumonia and influenza among white women has remained virtually the same in this decade, whereas mortality rates for Black women actually declined by 11 percent (the age-adjusted mortality rate was 14.3 per 100,000 in 1990 and 12.8 per 100,000 in 1998). Thus, the mortality rate ratio of Black females to white females decreased from 1.43 in 1990 to 1.27 in 1998. Again the magnitude of the racial differences for mortality from pneumonia and influenza is larger for men than women.

Risk Factors

Everyone can be susceptible to influenza and pneumonia, especially if influenza becomes epidemic in a community. However, people who are not well to begin with (for example, due to the presence of emphysema, diabetes, old or young age) are most at risk of developing serious, sometimes fatal complications. Immunization is recommended for high-risk groups which include people with chronic lung disease such as emphysema, chronic bronchitis, cystic fibrosis, heart disease, diabetes, chronic kidney disease, anemia, depressed immunity, or sickle cell. People over the age of 65 and children under 10 years of age also should be immunized.

Additional risk factors for influenza and pneumonia include smoking and inadequate access to health care.

Program Perspectives

Influenza vaccination must be repeated annually because the virus has the ability to change from year to year. Local health departments and many of the home nursing agencies such as Visiting Nurses Association hold influenza immunization clinics in various places around their communities in the fall of each year. The influenza vaccine is not expensive and local health departments keep the cost of vaccination to a minimum. Persons who have Medicare Part B have influenza vaccination as a covered benefit and so do not need to pay for this. While many people are advised to be immunized, those at high risk of complications from influenza are specifically encouraged to receive the vaccination. The MDCH Immunization Division is working with managed care organizations, diabetes groups and nursing homes to inform people of their risks and where they can get vaccinated.

There are few prevention opportunities to avoid pneumonia deaths, but one available tool is the pneumoccocal vaccine which is 60 percent to 70 percent effective in preventing invasive disease. With the increase in antibiotic resistance by microbes such as the pneumococcus, vaccination has become an even more valuable means of disease protection. Pneumococcus accounts for about 80 percent of serious pneumonia cases in Michigan. Unlike influenza vaccination, pneumococcal vaccine is only administered once or at most twice during a person's lifetime. Because the risk groups for pneumonia are essentially the same as for influenza, the two vaccines are usually offered at the same clinics. Pneum-ococcal vaccine is also covered under Medicare Part B. ■

Diabetes

Introduction

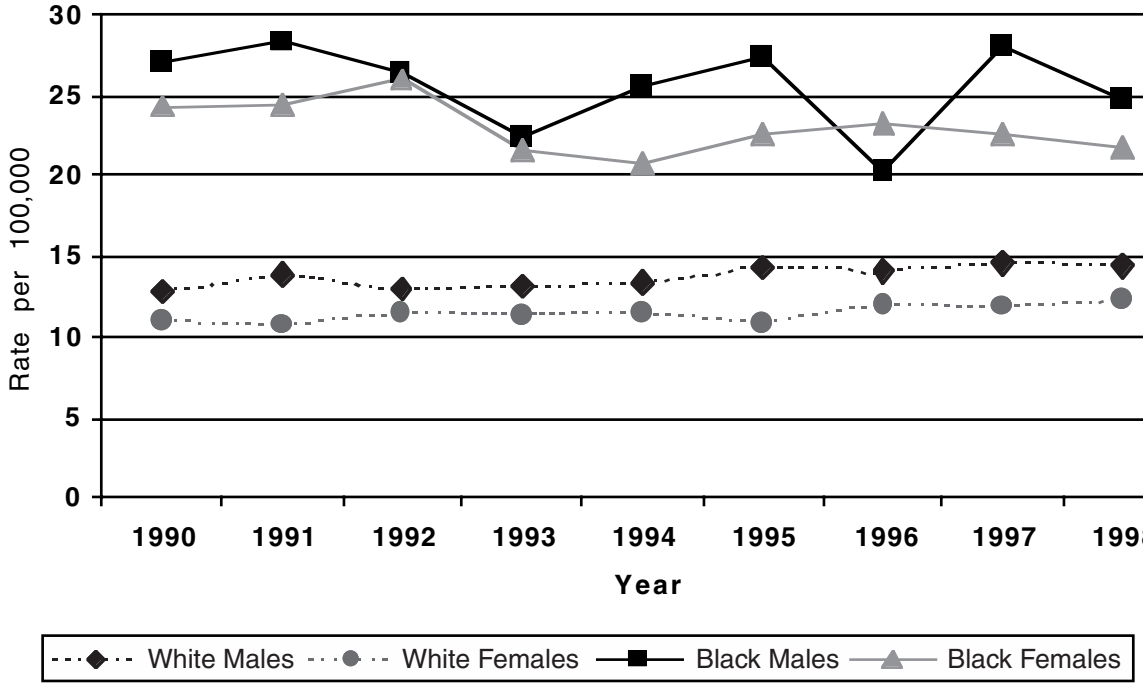
Diabetes mellitus is a chronic, systemic disease characterized by abnormalities in the metabolism of carbohydrates, proteins, fats and insulin and abnormalities in the structure and function of blood vessels and nerves. It is characterized by hyperglycemia resulting from defects in insulin production, insulin action or both.

There are two major types of diabetes mellitus: type 1 and type 2. Type 1 diabetes is a disease that results from the body's failure to produce insulin. This is most often the result of an autoimmune process in which the body's immune system attacks and destroys the insulin-producing cells of the pancreas. Type 1 diabetes affects approximately 10 percent of all persons with diabetes and is typically diagnosed before the age of 30 years. Type 1 diabetes requires daily treatment with insulin.

Type 2 diabetes results from the body's inability to either make sufficient insulin or to properly use the insulin it has made (termed insulin resistance). Often type 2 diabetes can be controlled by a combination of weight loss, improved nutrition and exercise alone, but sometimes oral medication and insulin are needed. Type 2 diabetes usually develops after age 30, but can occur at any age.

Complications of diabetes can cause several severe conditions including adult-onset blindness,

Figure 10: Age-Adjusted Diabetes Mortality Rates (per 100,000) by Race and Gender, Michigan 1990-1998



Note: *Age-adjusted rates are based on age-specific death rates per 100,000 population in specified group. Computed by the direct method, using as the standard population the age distribution of the total population of the United States as enumerated in 1940. Michigan rates for 1991-1996 have been revised based upon revisions to population estimates.*

Source: *Michigan Resident Death Files, Division for Vital Records and Health Statistics, Michigan Department of Community Health, Population Estimate File (latest update 9/98). Office of the State Demographer, Michigan Department of Management and Budget.*

kidney failure, peripheral vascular damage, heart disease and stroke, impotence, nerve disease and amputations.

Descriptive Epidemiology

Approximately 16 million people in the United States actually have diabetes, but probably a third of them are undiagnosed. The prevalence of diabetes has increased greatly over recent decades. For example, since the mid-1930s the prevalence of diabetes in the U.S. has increased eightfold. In the United States and Michigan, diabetes is the seventh leading cause of death overall. Large racial differences exist in diabetes mortality rates, with rates among Blacks about twice those of whites. Finally, it should be noted that the true mortality burden from diabetes is undercounted, because diabetes is more often listed as a contributing cause rather than as an underlying cause of death.

Race and Gender Comparisons (See Figure 10)

In Michigan since 1990, age-adjusted diabetes mortality rates have declined in Blacks but have increased in whites. The age-adjusted diabetes mortality rate for white men increased by 12 percent from 12.9 per 100,000 in 1990 to 14.4 per 100,000 in 1998. Age-adjusted diabetes mortality rates for Black men decreased by 9 percent from 27.0 per 100,000 to 24.7 per 100,000. The mortality rate ratio for Black males compared with white therefore declined from 2.1 in 1990 to 1.72 in 1998.

Age-adjusted mortality rates for white women increased by 12 percent from 11.1 per 100,000 in 1990 to 12.4 per 100,000 in 1998. Diabetes mortality rates for Black women decreased by 11 percent from 24.3 per 100,000 to 21.7 per 100,000. Consequently, the mortality rate ratio for Black females compared with white females also decreased between 1990 and 1998 from 2.2 to 1.75.

Risk Factors

Non-modifiable risk factors for type 2 diabetes include age, race and ethnicity, family history and genetic pre-disposition. Modifiable risk factors include overweight, body fat distribution, sedentary lifestyle and poor diet. While obesity is a major risk factor for type 2 diabetes, the type or distribution of obesity is also important.

The causes of type 1 diabetes are not known, but viral (e.g., enterovirus, coxsackievirus) and environmental factors (e.g., cow's milk, toxins, congenital rubella, etc.) have been hypothesized to be involved in the destruction of pancreatic beta cells with the resulting inability to produce insulin.

Program Perspectives

The Michigan Department of Community Health Diabetes Control Program supports two diabetes initiatives directly intended to improve the health of African-Americans with diabetes and several others that include improving the health of African-Americans with diabetes as a priority. The faith-based AIM-HI, the African-American Initiative for Male Health Improvement, is a community screening and intervention program. Started in 1999, it is operated by Henry Ford Health Systems. It aims to improve the health of Detroit-area African-American males in the areas of diabetes, hypertension and eye disease. The Detroit Diabetes Empowerment Project, operated by the City of Detroit Health Department, works to improve the quality of care provided to persons with diabetes throughout the health department's system. It also strives to empower patients with diabetes to take control and manage their disease.

Five of the six Diabetes Outreach Networks and two of the local health departments supported by MDCH also target African-Americans, have initiatives that target African-Americans, or collaborate on such initiatives. Thus MDCH is actively involved in supporting efforts to improve the health of African-Americans with diabetes in Berrien and Lenawee counties, Muskegon, Grand Rapids, Battle Creek, Flint and Greater Detroit, as well as other areas. ■

Chronic Obstructive Pulmonary Disease (COPD)

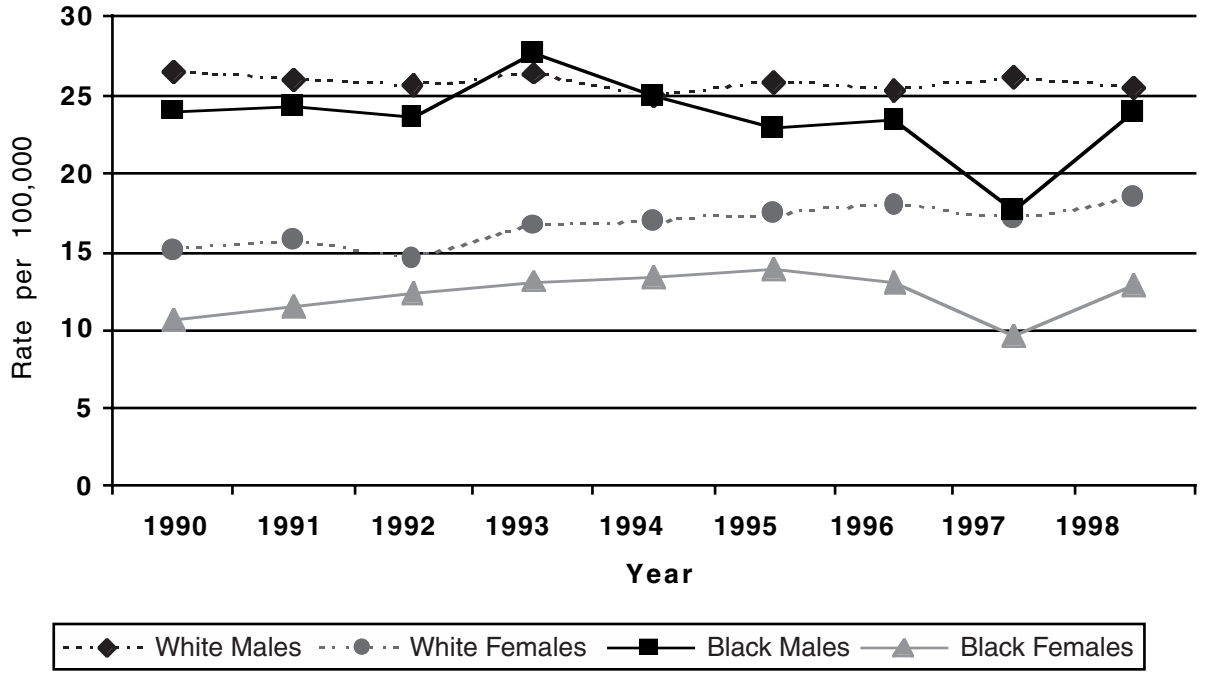
Introduction

Chronic obstructive pulmonary disease (COPD) is a generic term used to describe a subset of three chronic lung disorders: chronic bronchitis, emphysema and asthma. The clinical, physiological and pathologic criteria of these disorders often overlap, thereby making it difficult to distinguish between them clinically. COPD has been defined as a process characterized by nonspecific changes in lung parenchyma and bronchi which may lead to emphysema and air flow obstruction. Impairment of lung function resulting from COPD is largely irreversible and progressive. It occurs most frequently in older adults who often have multiple co-morbidities.

Descriptive Epidemiology

COPD is the fourth leading cause of mortality in the U.S. and Michigan and is responsible for approximately 4.5 percent of all deaths. Mortality from COPD has increased by over 30 percent in the U.S. since 1980, in part due to the increasing prevalence of COPD in the elderly population, declines in other competing causes of

Figure 11: Age-Adjusted Chronic Obstructive Pulmonary Disease (COPD) Mortality Rates (per 100,000) by Race and Gender, Michigan 1990-1998



***Note**: Age-adjusted rates are based on age-specific death rates per 100,000 population in specified group. Computed by the direct method, using as the standard population the age distribution of the total population of the United States as enumerated in 1940. Michigan rates for 1991-1996 have been revised based upon revisions to population estimates.*

***Source:** Michigan Resident Death Files, Division for Vital Records and Health Statistics, Michigan Department of Community Health, Population Estimate File (latest update 9/98). Office of the State Demographer, Michigan Department of Management and Budget.*

mortality, and possibly changes in diagnostic and coding practices. Finally, we should note that COPD also contributes greatly to long-term morbidity and disability in affected populations.

Race and Gender Comparisons (See Figure 11)

In Michigan, COPD mortality is higher in men than women. Trends in age-adjusted COPD mortality rates for white and Black men were essentially flat during the 1990 to 1998 period, with the rate among whites slightly higher than that among Blacks. The mortality rate ratio for Black males compared with white males was therefore 0.91 in 1990 and 0.94 in 1998. In contrast to men, the age-adjusted COPD mortality rates among white and Black females increased by over 20 percent during the 1990 to 1998 period. The cause of the aberrant low mortality rates in Black men and Black women in 1997 is not known.

Risk Factors

Smoking is the strongest risk factor for COPD, with disease rates being 10 times higher in smokers compared with non-smokers (i.e., relative risk = 10). Over 90 percent of the burden of COPD can be attributed to smoking. The role of other environmental agents, such as air pollutants (i.e., ozone and particulates) and occupational dusts and chemicals has yet to be fully explained, but may contribute to COPD incidence either independently or in an additive manner with tobacco use.

Program Perspectives

MDCH provides funding to more than 20 community-based agencies to conduct tobacco prevention activities among Communities of Color, including African-American men. These programs address smoking prevention, smoking cessation, and promotion of awareness of the dangers of secondhand smoke. Local tobacco reduction coalitions in inner-city areas conduct similar activities targeted toward African-American men such as programs aimed at reaching this population in barber shops. Additionally, tobacco reduction media programs and educational materials have been developed specifically to reach the African-American male. ■

AIDS and HIV Infection

Introduction

Acquired Immune Deficiency Syndrome (AIDS) is a severe, life-threatening clinical condition, first recognized as a distinct syndrome in 1981. This syndrome represents the late clinical stage of infection with the human immunodeficiency virus (HIV). HIV is transmitted from person to person through sexual contact or exposure to infected blood or other body fluids.

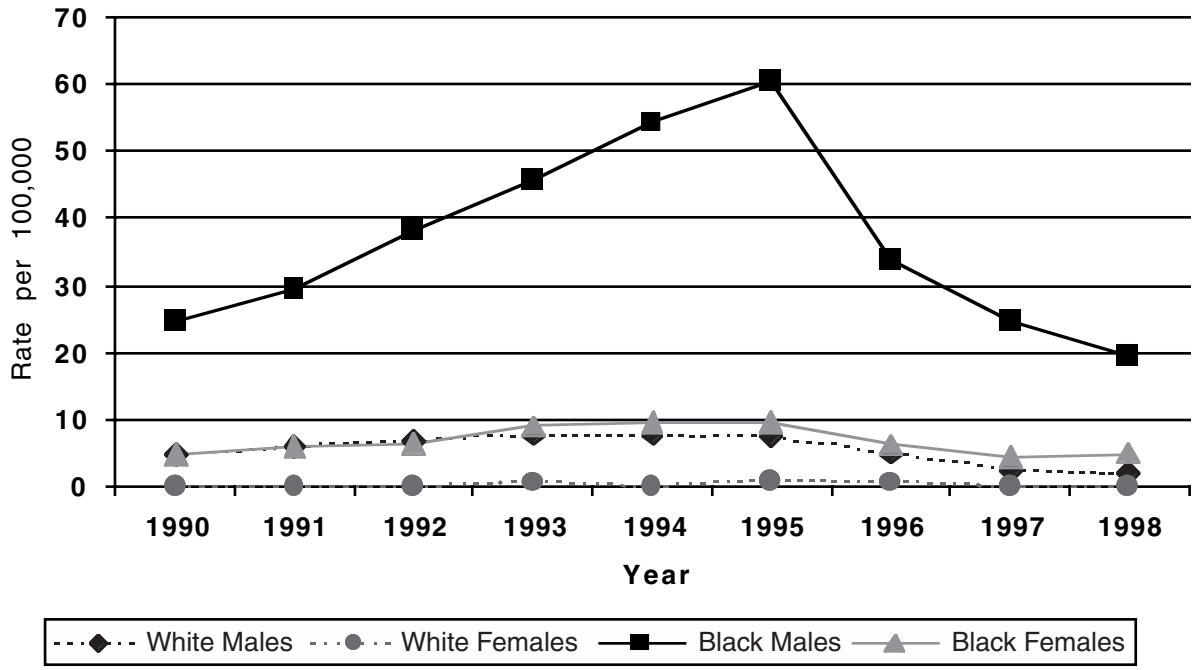
Descriptive Epidemiology

Between 1990 and 1997, the overall age-adjusted mortality rate for AIDS in the United States declined 41 percent (from 9.8 to 5.8 per 100,000). The rate for African-American males declined 13 percent (from 44.2 to 38.5 per 100,000), the rate for white males declined 63 percent (from 15.0 to 5.6 per 100,000), the rate for white females dropped 9 percent (from 1.1 to 1.0 per 100,000), and the rate for African-American females rose 34 percent (from 9.9 to 13.3 per 100,000).

Race and Gender Comparisons (See Figure 12)

In 1998 AIDS was the ninth leading cause of death for African-American males in Michigan. In that same year AIDS accounted for 5 percent and 9 percent of African-American male deaths in the 25-34 and 35-49-year-old age groups, respectively. Between 1990 and 1998, the overall age-adjusted mortality rate from AIDS in Michigan declined 36 percent, from 3.9 per 100,000 to

Figure 12: Age-Adjusted AIDS Mortality Rates (per 100,000) by Race and Gender, Michigan 1990-1998



***Note**: Age-adjusted rates are based on age-specific death rates per 100,000 population in specified group. Computed by the direct method, using as the standard population the age distribution of the total population of the United States as enumerated in 1940. Michigan rates for 1991-1996 have been revised based upon revisions to population estimates.*

***Source:** Michigan Resident Death Files, Division for Vital Records and Health Statistics, Michigan Department of Community Health, Population Estimate File (latest update 9/98). Office of the State Demographer, Michigan Department of Management and Budget.*

2.5 per 100,000. The age-adjusted AIDS mortality rate among African-American males in Michigan declined 20 percent between 1990 and 1998. However, this decline was far from linear. Between 1990 and 1995, AIDS mortality in African-American men more than doubled from 24.7 per 100,000 to a high of 60.6 per 100,000 in 1995. AIDS mortality then declined by a spectacular 67 percent to 19.7 per 100,000 in 1998. During this same three-year period, the mortality rate for white males declined 73 percent (from 7.5 to 2.0 per 100,000). The dramatic decline in AIDS mortality over the past three years is primarily attributed to advances in the treatment of HIV infection. The net effect of these dramatic changes on the AIDS mortality rate ratio for African-American males compared with white males in Michigan is that it increased 83 percent, from 5.4 to 9.9 between 1990 and 1998. Nationally this mortality rate ratio increased 138 percent, from 2.9 in 1990 to 6.9 in 1997, indicating that African-American men are not benefiting from the recent treatment advances to the same extent as white men.

In Michigan, the age-adjusted AIDS mortality rate for African-American females rose 6 percent (from 4.7 to 4.9 per 100,000) between 1990 and 1998. There were too few deaths among white females to calculate a rate.

Based on estimates from the Michigan Department of Community Health AIDS Surveillance Section, the prevalence of African-American males living with HIV infection or AIDS in 1998 was seven times greater than that for white males (i.e. 826 per 100,000 versus 115 per 100,000). Among Black females, the prevalence of HIV infection or AIDS was more than 18 times higher than that for white females (i.e. 314 per 100,000 versus 17 per 100,000).

Risk Factors

The primary groups at risk of infection with HIV are those who inject illegal drugs, are exposed to infected blood products, who have heterosexual contact with an infected partner, who have perinatal exposure to an infected mother, and men who have sex with men. The predominant reported risk factor among HIV-infected white males in Michigan is homosexual activity (71 percent), whereas among African-American males the predominant reported risks are homosexual activity (44 percent) and injecting illegal drugs (23 percent). Among females the predominant reported risks are heterosexual activity (48 percent in white women, and 34 percent in Black women) and injecting illegal drugs (29 percent in white women, and 39 percent in Black women).

Avoiding unprotected sex and the injection of illegal drugs can prevent the majority of cases of HIV. Risk of infection can be lowered by condom use, limiting the number of sexual partners and not sharing needles among those who don't refrain from injecting drugs.

Program Perspectives

The high prevalence of HIV/AIDS among the African-American community has resulted in efforts to target prevention and care services to African-Americans considered at risk for or known to be HIV infected. The HIV/AIDS Prevention and Intervention Section (HAPIS) has provided resources to local communities to offer care services and life-saving medications to people living with HIV who have no ability to pay.

Prevention initiatives that target populations that have been identified as being at greatest risk are also funded.

Men who have sex with men will continue to be a significantly affected population. Prevention and care programs recognize this group as the largest behavioral group affected by the HIV epidemic. Through partnerships with the Statewide Prevention Planning Group and the Statewide HIV/AIDS Care Consortium, the department promotes early identification of HIV infection and access to prevention and treatment services that are culturally competent and sensitive to diverse populations. ■

Chronic Liver Disease

Introduction

The most common chronic liver diseases are cirrhosis and hepatitis. Cirrhosis is a group of chronic diseases in which normal liver cells are damaged and replaced by scar tissue (liver fibrosis). Scarification of normal liver tissue causes the liver to harden and interferes with blood flow, which handicaps the functions and performance of the liver. Common causes of liver cirrhosis include chronic alcohol consumption, viral hepatitis (particularly types B and C), inherited congenital diseases such as hemochromatosis, severe drug reactions and environmental toxins.

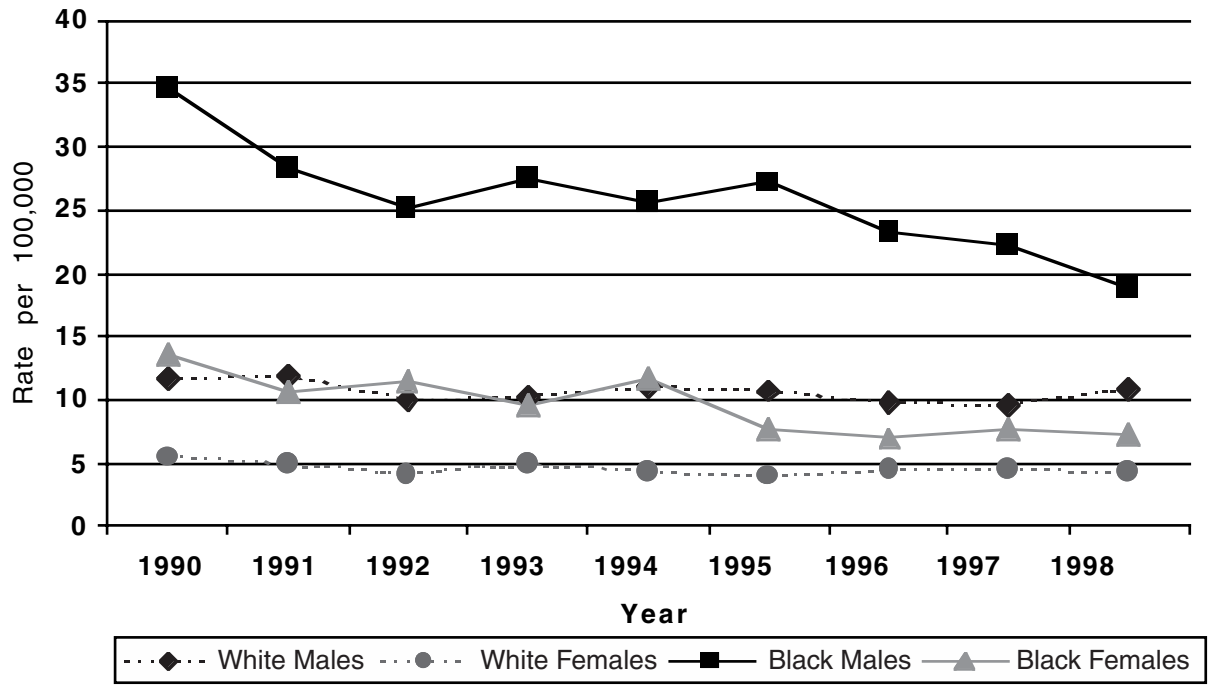
Descriptive Epidemiology

In the United States chronic liver disease and cirrhosis are the tenth overall leading causes of death, while in Michigan chronic liver disease ranks ninth overall. Nationally, chronic liver disease has an overall age-adjusted mortality rate of 7.4 deaths per 100,000. In Michigan, mortality from chronic liver disease declined 12 percent in the entire population from 10.3 deaths per 100,000 in 1990 to 8.0 per 100,000 in 1998.

Race and Gender Comparisons (See Figure 13)

In Michigan since 1990, mortality from chronic liver disease and cirrhosis has declined among all race and gender subgroups, with larger reductions among Blacks than whites. However, large racial

Figure 13: Age-Adjusted Chronic Liver Disease Mortality Rates (per 100,000) by Race and Gender, Michigan 1990-1998



Note: *Age-adjusted rates are based on age-specific death rates per 100,000 population in specified group. Computed by the direct method, using as the standard population the age distribution of the total population of the United States as enumerated in 1940. Michigan rates for 1991-1996 have been revised based upon revisions to population estimates.*

Source: *Michigan Resident Death Files, Division for Vital Records and Health Statistics, Michigan Department of Community Health, Population Estimate File (latest update 9/98). Office of the State Demographer, Michigan Department of Management and Budget.*

differences still exist in Michigan. The age-adjusted chronic liver disease mortality rate in white males declined slightly (8 percent) from 11.7 per 100,000 in 1990 to 10.8 per 100,000, in 1998. Among Black men, the age-adjusted mortality rates in 1990 and 1998 were 34.6 and 18.8 per 100,000, respectively, which represents a considerable reduction of 46 percent. The mortality rate ratio for Black males compared with white males therefore declined from 3.0 in 1990 to 1.74 in 1998.

The age-adjusted chronic liver disease mortality rate among white women declined by 24 percent from 5.5 per 100,000 in 1990 to 4.2 per 100,000 in 1998, while the mortality rate for Black women also declined considerably (by 47 percent) from 13.5 per 100,000 in 1990 to 7.2 per 100,000 in 1998. The mortality rate ratio for Black females compared with white females therefore declined from 2.5 in 1990 to 1.71 in 1998.

Risk Factors

Risk factors for chronic liver disease are numerous. Risk factors for developing viral hepatitis include intravenous drug use, blood transfusions, environmental agents, and sexual practices (e.g., multiple sex partners). Generally, a combination of factors leads to the development of chronic liver disease. The most common exposure is long-term excessive alcohol intake coupled with poor nutrition. Approximately 5 percent of persons with acute hepatitis B develop cirrhosis, while those infected with chronic hepatitis C have a lifetime risk of cirrhosis of 20 percent to 30 percent.

Program Perspectives

A policy of universal hepatitis B virus vaccination for all children in Michigan is currently being undertaken. For adults, Hepatitis B vaccination is provided only for high-risk individuals who access public health sexually transmitted disease clinics.

Historically, the African-American male has been disproportionately affected by substance abuse, especially opiate addiction. For this reason, the MDCH Bureau of Substance Abuse Services requires that substance abuse coordinating agencies include a narrative on African-American male services in their annual action plans.

Funded substance abuse agencies must refer or provide testing for hepatitis B for all clients, and for hepatitis C if the client is an injecting drug user. If tests show no serologic evidence of prior hepatitis B exposure, clients are to be offered hepatitis B vaccine. ■

Suicide

Introduction

Suicide is an external cause of death that is determined to be a result of action by the deceased person. Firearms are the most common means of suicide followed by hanging and poisoning.

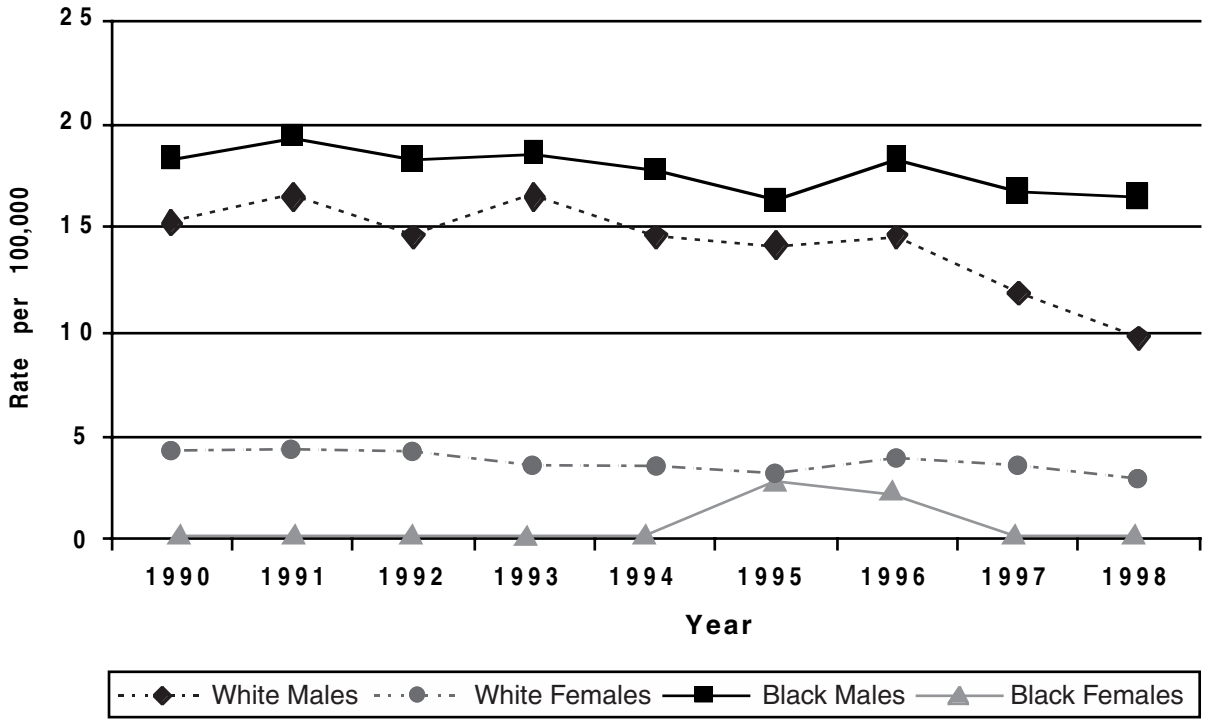
Descriptive Epidemiology

Between 1990 and 1997 the overall age adjusted mortality rate for suicide in the United States declined 8 percent (from 11.5 to 10.6). The rate for African-American males dropped 10 percent (from 12.4 to 11.2), the rate for white males dropped 9 percent (from 20.1 to 18.4), the rate for white females dropped 8 percent (from 4.8 to 4.4) and the rate for African-American females dropped 21 percent (from 2.4 to 1.9). The suicide mortality rate in Michigan and nationally is lower for African-Americans males than it is for white males and it is lower for African-American females than it is for white females.

Race and Gender Comparisons (See Figure 14)

In Michigan's total population, suicide was the ninth leading cause of mortality in 1990 and the eighth leading cause in 1998. However, suicide was not among the top 10 leading causes

Figure 14: Age-Adjusted Suicide Death Rates (per 100,000) by Race and Gender, Michigan Residents 1990-1998



Note: *Rates are based on age-specific death rates per 100,000 population in specified group. Computed by the direct method, using as the standard population the age distribution of the total population of the United States as enumerated in 1940. Michigan rates for 1991-1996 have been revised based upon revisions to population estimates.*

Number of events were too few to calculate a statistically reliable rate for Black females between 1990 and 1994 and for 1997 and 1998.

Source: *Michigan Resident Death Files, Division for Vital Records and Health Statistics, Michigan Department of Community Health, Population Estimate File (latest update 9/98). Office of the State Demographer, Michigan Department of Management and Budget.*

of death for African-American males in either year. The overall age-adjusted suicide mortality rate in Michigan declined 16 percent, from 10.7 in 1990 to 9.0 per 100,000 in 1998. The age-adjusted suicide mortality rate for African-American males dropped 37 percent, from 15.3 per 100,00 in 1990 to 9.7 per 100,00 in 1998. In this same period the rate for white males dropped 10 percent (from 18.4 to 16.5 per 100,000), which resulted in the suicide mortality rate ratio for Black males compared with white males declining from 0.8 in 1990 to 0.6 in 1998. While the suicide rate is lower in African-American males than white males, it should be noted that suicide tends to occur at a younger age in the African-American male population, thus contributing to a greater number of years of life lost For example, in African-American males, 69 percent of all suicide deaths occur among those aged less than 45, whereas among white males, 55 percent of suicides occur among those aged less than 45 years of age.

The suicide rate for white females in Michigan declined 27 percent (from 4.1 to 3.0 per 100,000) during the 1990 to 1998 period. The number of cases among African-American females was too small to calculate a rate, except for 1995 and 1996..

Risk Factors

The most important risk factor for suicide is psychiatric illness including depression, affective disorders, substance abuse, and personality disorders, especially if there is a history of psychiatric hospital admission. Other risk factors include social adjustment problems, medical illness, living alone, recent bereavement, personal or family history of suicide attempts, family history of completed suicide, divorce, separation and unemployment. Since firearms are used in about 60 percent of all suicides, a firearm in the home increases the risk of suicide. Although there are not well-established interventions to prevent suicides, mental health counseling, limiting access to potential suicide vehicles and treatment of underlying conditions may reduce the risk among those identified to be at higher risk.

Program Perspectives

The 49 local Community Mental Health Service Programs serving the state always have given individuals at risk of committing suicide their highest service priority. The same is true of other department programs such as teen health centers. The department also requires the review and reporting of every death of a client in the behavioral health system who resides in a specialized residential setting and requires preventative actions to be taken. Suicide rates are monitored as a performance measure. The department has supported an annual depression awareness media campaign. The department also has been active in promoting a reduction in unauthorized access to firearms by promoting home risk assessments for homes with firearms and trigger lock and lock-box storage for firearms. ■

MDCH is an Equal Opportunity Employer, Services and Programs Provider.
10,000 printed at $1.04 each with a total cost of $10,372.50